



## **Critical Care Therapy and Respiratory Care Section**

Category:	Clinical
Section:	Airway Management
Title:	Intubation Assistance
Policy #:	03
Revised:	05/01

### **1.0. DESCRIPTION**

1.1. Definition: Intubation is the insertion of an endotracheal tube into the trachea.

#### **1.2 Indications**

- 1.2.1 Respiratory failure
- 1.2.2 Impending respiratory failure
- 1.2.3 Relief of airway obstruction
- 1.2.4 Airway protection

#### **1.3 Complications**

- 1.3.1 Vomiting and aspiration
- 1.3.2 Hypoxemia with resulting dysrhythmias and/or hypotension
- 1.3.3 Esophageal intubation
- 1.3.4 Chipped or dislodged teeth
- 1.3.5 Trauma to upper airway, tracheal mucosa, or vocal cords
- 1.3.6 Vagal nerve stimulation with secondary bradycardia or hypotension
- 1.3.7 Laryngospasm
- 1.3.8 Failure to intubate

#### **1.4 Relative Contraindications**

- 1.4.1 The presence of stomach contents
- 1.4.2 Inadequate sedation

## 1.5 Adverse Reactions and Interventions

- 1.5.1 Vomiting: Stop intubation attempt, suction oropharynx, and ventilate with 100% oxygen.
- 1.5.2 Hypoxemia: Stop intubation attempt and ventilate with 100% oxygen. Emergency drugs will be administered as ordered by the physician when needed for control of dysrhythmias.
- 1.5.3 Esophageal intubation: Remove the endotracheal tube and ventilate with 100% oxygen. Reattempt tracheal intubation when the patient is well oxygenated.
- 1.5.4 Chipped or dislodged teeth: Remove these from the airway to prevent their aspiration.
- 1.5.5 Trauma to the airway mucosa or vocal cords: Take steps to minimize further damage. Suction the airway of blood if necessary to maintain visualization of anatomical structures.
- 1.5.6 Vagal stimulation: Stop intubation attempt and ventilate with 100% oxygen. Emergency drugs will be administered as ordered by the physician when necessary.
- 1.5.7 Laryngospasm: Stop intubation attempt and ventilate with 100% oxygen. Anesthetize the airway as needed prior to another attempt at intubation; neuromuscular blockade may be necessary.
- 1.5.8 Failure to intubate: The necessary steps for emergent cricothyrotomy or tracheostomy must be performed. Either the critical care physician will perform one of these procedures, or he/she will contact personnel who are expert in the performance of these techniques. Assistance should be provided as requested and needed throughout the procedure.

## 2.0 EQUIPMENT AND MATERIALS

- 2.1 Endotracheal tubes of the estimated size needed, one-half size larger, and one-half size smaller:
  - 2.1.1 The formula for estimating tube size in pediatric patients up to age 12 is  $(\text{age in years} + 16)/4$ .
- 2.2 Manual resuscitator and appropriate sized mask
- 2.3 Tonsil tip suction
- 2.4 Laryngoscope and blades with functional bulbs
- 2.5 Stylet
- 2.6 20 cc syringe
- 2.7 Xylocaine jelly

- 2.8 Cetacaine spray
- 2.9 Endotracheal tube fixation device or tape
- 2.10 Oral airways
- 2.11 Pulse oximeter
- 2.12 Cardiac monitor
- 2.13 HP bedside EtCO<sub>2</sub> mainstream module with cable and adapter

### **3.0 PROCEDURE**

- 3.1 Gather and prepare/test equipment:
  - 3.1.1 Initiate cardiac monitoring, pulse oximetry and EtCO<sub>2</sub> monitoring. (**Note:** The EtCO<sub>2</sub> module requires a 20 minute warm up period before calibration can be performed and accurate numeric values can be obtained. EtCO<sub>2</sub> waveforms will be functional upon initiation of device.)
  - 3.1.2 Connect the manual resuscitator and mask to oxygen.
  - 3.1.3 Test the pilot balloon on the endotracheal tube, insert the stylet, and lubricate the tube.
  - 3.1.4 Test and tighten the laryngoscope blades' bulbs.
- 3.2 Don the appropriate universal precautions apparel.
- 3.3 Position the patient appropriately.
- 3.4 Hyperoxygenate the patient with resuscitation bag, mask and 100% oxygen.
- 3.5 Assist the physician as needed during the intubation with suctioning, patient repositioning, supplies, cricoid pressure, and bag/mask ventilation.
- 3.6 Monitor the oxygen saturation using the pulse oximeter and notify the physician if saturation falls below 90%. Assist with reoxygenation.
- 3.7 Once endotracheal tube is inserted, place EtCO<sub>2</sub> adapter between the endotracheal tube and the resuscitation bag.
- 3.8 Assure proper placement of the endotracheal tube by observation of chest expansion and auscultation with manual breaths and presence of adequate EtCO<sub>2</sub> waveform.
- 3.9 After good placement has been confirmed, note the "cm" marking on the tube at the position of the lip or teeth, and secure the tube. The "cm" marking at the lip or teeth should be documented on the Ventilator Flowsheet Q2 hours, in order to help ascertain whether the tube has shifted in position.
- 3.10 Document good position of the endotracheal tube on the chest radiograph.

- 3.11 Continuous EtCO<sub>2</sub> monitoring should be performed to assure patency of the airway.

#### **4.0 POST PROCEDURE**

- 4.1 Administer the appropriate post-intubation therapy, e.g., mechanical ventilation, CPAP therapy, or high flow oxygen therapy.
- 4.2 Calibrate EtCO<sub>2</sub> module after 20 minute warm up for accurate numerical values.
- 4.3 Clean the soiled intubation supplies:
  - 4.3.1 Wipe the handle with alcohol.
  - 4.3.2 Scrub the blade(s) with soap and water and then soak them in alcohol or peroxide for several hours. Allow to air dry, place in sterilization pouch and send to CHS for gas sterilization.
  - 4.3.3 Restock the bedside intubation kit and reseal.

#### **5.0 CHARTING**

- 5.1 Document the following information on the ventilator flowsheet and in the MIS:
  - 5.1.1 Endotracheal tube size (or tracheostomy tube size)
  - 5.1.2 Position of tube and cuff pressure (if applicable)
  - 5.1.3 Mechanical ventilatory parameters or oxygen system data
  - 5.1.4 Status of EtCO<sub>2</sub> monitoring
  - 5.1.5 Complications or adverse effects

SIGNATURE: \_\_\_\_\_  
Assistant Section Chief, CCTRCS, CCMD

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(Orig. 1/10/92)  
(Rev. 8/94, 7/00)